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TCS-8204-68

8 May 1968

Copy No. 4

MEMORANDUM FOR THE RECORD

SUBJECT: Meeting on Bi-Color Held 2 May 1968

REFERENCE: [ ] Memorandum Regarding Exploitation of Bi-Color Materials, TCS-7875/68, Dated 2 May 1968

1. The subject meeting was held at 1000 hours [ ]

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2. The purpose of the meeting was to get comments from appropriate Division/Staff representatives that could be used in preparing an introductory statement about Bi-Color for the next OAK on Mission [ ] The statement is to cover the following three areas:

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a. Produce and coordinate with [ ] a general statement in layman terms describing bi-color for presentation in the OAK and OAK supplements of Mission [ ]

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b. Produce and solicit suggestions on how to view bi-color.

c. Prepare a statement saying in effect that NPIC is not prepared to make and disseminate bi-color prints from bi-spectral material to the Community.

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Declass Review by NIMA / DoD

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3. In today's meeting the following comments were made:

a. It was generally agreed that the ARES is the only equipment available at this time with which to view this material.

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b. [ ] suggested that the material could be read out in black-and-white instead of color providing the P.I.'s are trained to differentiate between the shading characteristics when materials are compared.

c. Discussion on the proper terminology revealed that most of the attendees felt "bi-spectral" was a more correct term for the material than "bi-color" and that the material could be considered "bi-color" only after "man" had viewed it. However, due to the common usage of the term "bi-color", it was decided not to change the name, but a suggestion was made to add "bi-spectral" in parenthesis after the word "bi-color" in the OAK.

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d. [ ] reported on his experiments with the bi-color material given to him. He explained that he made his own bi-color photographs and that he had established that all the information could be seen by superimposition viewing in white light without the use of color filters. When he added the filter, he was able to tell something about the color, whether it was greenish, redish or neither. He said that he had no means of rectifying stereo pairs of mission materials furnished to him.

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e. [ ] discussed 1st and 2nd order distortion in panoramic photography and the fact that the ARES we have can only remove "0" and 1st order distortions, which is also possible with the EROS [ ] said there were three ARES viewers: the RADC version which is at NPIC and those at GIMRADA [ ]

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[ ] they had heard the Navy is supposed to have one in storage.

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f. [ ] suggested some consideration for the future should be given to modifying the EROS to present a binocular superimposed image [ ] commented that the EROS is a very delicate lab instrument which would require an expert to keep it in working order.

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25X1 g. [REDACTED] stated that [REDACTED] has a map  
stereo compilation device under development which  
25X1 compares images and matches their geometry regardless  
of distortion. Maps may be updated in this fashion.  
[REDACTED] suggested this device as a point of reference  
for possible development of a rectifying or viewing  
system for distorted bi-color photography.

h. There was more discussion on [REDACTED]  
experiment. He felt it was not wholly valid because  
he did not duplicate the system in preparing his  
bi-color pictures, and he pointed out that this did  
not obviate the need for a superimposition viewer.

i. [REDACTED] as to  
the need for hardware development, and he answered  
that we have no ground truth in the mission materials  
but if we can get our hypothesis confirmed that P.I.'s  
can be taught to discern and interpret these differences  
without superimposition or color filters, it is quite  
possible that they will not need any hardware. This  
was controversial, however, since without hardware  
for appropriate readouts of the imagery, it was  
generally agreed that it would be necessary for  
trained experts to read the imagery, and these  
"experts" would be rare. [REDACTED] did not feel  
the average P.I. was capable of detecting the fine  
differences without equipment.

j. [REDACTED]  
[REDACTED] made using P.I.'s. Out of 10 P.I.'s he talked  
with only 3 had some photographic training. He felt  
that P.I.'s with this type of background should be  
trained to detect bi-color benefits first and they  
could be trained to be the "experts".

k. [REDACTED] also explained an experiment that  
was given to several P.I.'s where a housing complex with  
140 buildings was photographed. Four different buildings  
were picked out as representative of the 140. The P.I.'s  
were asked to merely relate tones in the different buildings,  
excluding geometry. 100% of those in the test group were  
able to perceive the differences and pick out the strongest  
signature. [REDACTED] commented that in another test  
(without superimposition) only 20% could pick the strongest  
signature out.

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4. [ ] asked for coordination on the bi-color evaluations being made throughout TSSG. TAD would like for any information available on bi-color to be given to them before the material is due to arrive at NPIC because the P.I.'s are depending on them. [ ] observed that all related TSSG components were represented at this meeting and he suggested that this sharing of information be continued.

Secretary [ ] NPIC

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